

J EOLIST



PCT09

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/936,133

DATE: 01/24/2002

TIME: 12:52:50

Input Set : A:\ES.txt

Output Set: N:\CRF3\01242002\I936133.raw

pp 2-11
Does Not Comply
Corrected Diskette Needed

W--> 3 Sequenzprotokoll *delete*
6 <110> APPLICANT: Schering Aktiengesellschaft
8 <120> TITLE OF INVENTION: Menschliche Nukleinsuresequenzen aus homo sapiensen
9 Endothelzellen
11 <130> FILE REFERENCE: 51690AWOM1XX00-P
13 <140> CURRENT APPLICATION NUMBER: US/09/936,133
14 <141> CURRENT FILING DATE: 2001-12-20
16 <160> NUMBER OF SEQ ID NOS: 60

*Use English
for a U.S.
application*

ERRORED SEQUENCES

18 <210> SEQ ID NO: 1
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20 <212> TYPE: DNA
21 <213> ORGANISM: homo sapiens
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27 tttctttttt ttttttaa at ttttttta at agtcacattc agctcgttg ctcaaaccag 180
28 actccacat tgggtgagca agatgagccc ataggattcc agagttaata cgtaaccgta 240
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42 gccgagtcct cggaaggaca tctggacacc actttcagcc acctccttgc aggggcgaca 1080
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44 gcaaacagga atgcagtaaa cgtccacgtc cgtcccacgg ctgggctgcc gttccgtttc 1200
45 ctccacgaac gggtagcgc ttccatgaga aaggatattt ggcaatttta tattccacag 1260
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51 ggtacacgag ctgcgtgtag gccgtgctgt ctggggctcg aggcctcttctc tgctggtgct 1620
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53 atttttggttc attcatatct acgccagagt ccaaactggc atcattactt ccgttccctc 1740
54 cagctctttg gagaatcaat gtatgaatgt ctaacctgac cgttggaact gccatccaag 1800
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71 agttatagtt catacacagt tgatttccat ttataaaggc agaaagtcct tgttttctct 420
72 aaatgtcaag ctttgactga aaactcccgt ttttccagtc actggagtgt gtgcgtatga 480
73 aagaaaatct ttagcaatta gatgggagag aagggaata gtacttgaaa ttagggcct 540
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85 gacactctgg gttgattgtg aaagaaattg ggtcttccac ctcgagctct tcagaaacag 180
86 ttgttaagct tccgtggccag agtactgatt ctcttccaca gactatatgt cggaaaccaa 240
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88 tctcgcat tgcaggtctg tgccaggaca ctgctcagag ttacacctt ggatgtggcc 360
89 atgaactgga tgaggaaggc ctctattgca acagttgctt ggcccagcag tgcacaca 420
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106 ctgctggca cacaacacg ggtccatgg tccagccgta caggcgccac tggccataga 420
107 ggaagcctgc ctctagcaca ctcttgaga gcacactggc gacatagggt cccatcagtg 480
108 ctccgcggat gcgcaggcga ccattctctg ccaccagat cttggccatc tgacgtctca 540
109 cgcccgccag cgcccgtcc acctgtgggt ccttgccgg cagtggccgc agtccccct 600

(global
error)

1835 ← insert
cumulative
base totals
at right
margin of
each line

same error

same

P3

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113 actgctcgtc accccacact gactcgccgg ccaggcccag gatgaggatg cggaagatga 840
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116 gcacgtcagt gtgtcagcat ggcacccctc tcgttcgccc agcaacaagc ctgcagggag 1020
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134 atgcaccccc tctcccccaa acacaaacaa gcacttctc agtatgggtg caggacaggt 480
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142 cttctgactt tagctctgtg ctgagccgtg tatccatgca gtcattgttc cgtgctagtt 960
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163 aaacccggga gctgcagcac caagagcgcc actggccaag gagcaactgc aaaaggtgca 720
164 agccctctgc ctgcccctgg acaaggacaa gtttgagatg gaccttcgta acctgtggag 780
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166 ctcggaattg gctccatcc gcagagcctg cgaccacatg cccagcctca tgagctccaa 900
167 ggtggaggag ctggcccgga gcctccgggc ggatatcgaa cgcgtggccc gcgagaactc 960
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169 acagaaggtg gagaaggagg ctgagggccg ggaggccaag ctccaagctg aatgctcccg 1080
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172 aaactcagcc ctggacacct gcatcaagac caagtcgcag ccgatgatgc cagtgtcaag 1260
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215 gaagcaggaa gcaagcccac tcaaacgtga aatttggcat gagggatcca gtaactttct 120
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219 <211> LENGTH: 561
220 <212> TYPE: DNA
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p.5

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223 <400> SEQUENCE: 9

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227 tgaactgaac tattctgtta catatggttg acaaatctgt gtgttatttc tttctacct 180
228 accatattta aatttatgag tatcaaccga ggacatagtc aaaccttcga tgatgaacat 240
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230 tgatgttgaa aggaaaagtg aatatgacct ttaaaaattg tattttgggt gatgatagtc 360
231 tcaccactat aaaactgtca attattgcct aatgtttaaag atatccatca ttgtgattaa 420
232 ttaaacctat aatgagtatt cttaatggag aattcttaat ggatggatta tccccgatc 480
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238 <212> TYPE: DNA

239 <213> ORGANISM: homo sapiens

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266 ttttaagagg catcttataa attttgcccc ttttatgagg atgtgatagt tgctgcaaat 1440
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E--> 268 aaaaaaaaa

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271 <211> LENGTH: 389

272 <212> TYPE: DNA

273 <213> ORGANISM: homo sapiens

275 <400> SEQUENCE: 11

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280 ctgtcctgct ggaaacccaa ggggcagatc ttactgcatg agagctctgg acatttctta 240
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286 <211> LENGTH: 981
287 <212> TYPE: DNA
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294 cccagaagtt tgaggctgta gtaagcttca aaggccactg cactctagct tgggtgaggc 180
295 aagacccttt caagcagtaa gctgcatgct tgcttggtgt ggtcattaaa aaccctagtt 240
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297 acctcagaat caaaatggaa cggttttaca gtgatatcat tatatttcat ttggcagaat 360
298 cattacatca ttggttacac tgaaaatcat cacatgtacc aaaagctgac tcacctagtt 420
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303 cacacagtgt agtcaagccg actctccata cccaagcaag tcatccatgg ataaaaacgt 720
304 taccaggagc agaaccatta agctgggtcca ggcaagttgg actccaccat ttcaacttcc 780
305 agctttctgt ctaatgcctg tgtgccaatg gcttgagtta ggcttgctct ttaggacttc 840
306 agtagctatt ctcatccttc cttggggaca caactgtcca taaggtgcta tccagagcca 900
307 cactgcatct gcacccagca ccatacctca caggagtcca ctcccacgag ccgctgtat 960
E--> 308 ataagagttc ttttgatgac g same
310 <210> SEQ ID NO: 13
311 <211> LENGTH: 401
312 <212> TYPE: DNA
313 <213> ORGANISM: homo sapiens
315 <400> SEQUENCE: 13
317 ataactacag cttcagcaga caactaaaga gactgcatta aggtgatttc tctggctata 60
318 aagagagccc ggccgcagag catgtgactg ctgggacctc tgggataggc aacactgccc 120
319 tctctcccc agagcgaccc ccggggcagg tgggggccc aggaatgacc cagcaactgc 180
320 tccctaccca gcacactctc tttactgcca cctgcaatta tgctgtgaag atgactgggt 240
321 gtggtcatca cgattcagag aaatcaagat ctatgacat tttaggcaaa gagagaaact 300
322 tggagaattg ctgaggacta ctgaaccttg ttttgctttt ttaaaaaata ctaaatcctc 360
E--> 323 acttcagcat atttagttgt cattaaaatt aagctgatat t same
325 <210> SEQ ID NO: 14
326 <211> LENGTH: 1002
327 <212> TYPE: DNA
328 <213> ORGANISM: homo sapiens p.7
330 <400> SEQUENCE: 14
332 gacaatataa aaagtggaaa caagcataaa ttgcagacat aaaataatct tctggtagaa 60
333 acagttgtgg agaacaggtt gagtagagca acaacaacaa aagcttatgc agtcaccttc 120
334 ttgaaaatg ttaaatacaa gtcctattct ctttgtccag ctgggtttag ctgaggttag 180
335 ccaattactt ctcttaaggt ccatggcatt cgccaggatt ctataaaagc caagttaact 240
```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/936,133

DATE: 01/24/2002

TIME: 12:52:51

Input Set : A:\ES.txt

Output Set: N:\CRF3\01242002\I936133.raw

```
336 gaagtaaata tctggggccc atcgaccccc cactaagtac tttgtcacca tgttgtatct 300
337 taaaagtcac ttttactgt ttgactcaga atttgggact tcagagtcaa acttcattgc 360
338 ttaactccaaa ccaggtttta ttccccactt ttttaagtag gcttagcttt gagtgtttt 420
339 tggctataac cgaaatgtaa atccaccttc aaacaacaaa gtttgacaag actgaaatgt 480
340 tactgaaaac aatggtgccca tatgctccaa agacatttcc ccaagataac tgccaaagag 540
341 tttttgagga ggacaatgat catttattat gtaggagcct tgatatctct gcaaaataga 600
342 attaatacag ctcaaatgga gtagtaacca agcttttctg ccaggaagt aacaaacatc 660
343 actacgaaca tgagagtaca agaggaaact ttcataatgc attttttcat tcatacatc 720
344 attcaataaa cattagccaa gctaattgtc caagccactg tgccaggtag taacaatata 780
345 acaacaataa aagacacagt ctttctcttc aagggtgttc gtctagtagg gaagatgatt 840
346 attcattaaa atttttggg catcagaatc atgaggagct tgtcaaaaat gtaaatttct 900
347 gcctatgttc tcagatattc tggtaggtc aggagtggga acccaaatc aattctttta 960
E--> 348 acaaacacta aaggtagtcc taacacagge ggtgtgagga cc same
350 <210> SEQ ID NO: 15
351 <211> LENGTH: 280
352 <212> TYPE: DNA
353 <213> ORGANISM: homo sapiens
355 <400> SEQUENCE: 15
357 cgagggtggc caccctgttc tggctgaga tttttaaatg aggattacat tatcctattt 60
358 ataattattc tattctaatc tattgtattc ttacaattaa atgtatcaaa taattcttaa 120
359 aacattattt agaaacaaac tgcctaatac cttataagac taaaaaatc accaagatga 180
360 aactgtatta tgactctcaa ttttaaaaca tttaaaaaaa tgtagtggtt tgtaagcac 240
E--> 361 caatcttaac tatttcacct gcccgggcgg ccgctcgagg same
363 <210> SEQ ID NO: 16
364 <211> LENGTH: 2041
365 <212> TYPE: DNA
366 <213> ORGANISM: homo sapiens p.8
368 <400> SEQUENCE: 16
370 cccccgcag aactcccccc tggaaatagga tttttaaaac ccttgacaat tagaaatcct 60
371 atagaggtta gcatttttta ggtaaaaaa tgggtgcccc tacagggatc atgcaacttc 120
372 cttaaaacca attcagcaca tatgtataaa gaaccctttt taaaacatt tgtacttgaa 180
373 atacagacac agtgatgctg aagacactaa acaaaaactg aaaagtacta taccttgata 240
374 aattttgtta ttgccttctt tagagacttt ataatctcta gttgattttc aaggacttga 300
375 atttaataat ggggtaatta cacaagacgt aaaggatttt taaaaacaa gtattttttt 360
376 ttacctctag catcaattct tttataaaga atgctaaata aattacattt tttgttcagt 420
377 aaaactgaag atagaccatt taaatgtctc taccaaattt aacgcagctt aattagggac 480
378 caggtagata ttttcttctg aacatttttg gtcaagcatg tctaaccata aaagcaaatg 540
379 gaattttaag aggtagattt ttttccatg atgcattttg ttaataaatg tgtcaagaaa 600
380 ataaaaacaa gcactgagtg tgttctctg aagtataagg gtctaataaa aaataaaaga 660
381 tagatatttg ttatagtctg acattttaac agtcatagta ttagacgttt cgtgaccagt 720
382 gcatttttga ctctctcagg atcaaaatac gagtctgcca actgtattaa atcctcctcc 780
383 accccctcca ccagttggtc cacagcttcc tgggtgggtc ttgtcatcaa atccattggg 840
384 ccgaaatgaa catgaagcag atgcagcttg gagggcccg gctcgagcat tcaactcttg 900
385 ttctgtaaa ttaggtttat tgtctttgt tatagcatcc ataagttctt tctgtagagg 960
386 tgggtctcca tttatccaga gtccactggt tgggttatta ccacttaaac cattagtact 1020
387 atgctgtttt ttatacaaaa gcacataagc tgtgtcctt ggaaacctgc tcgtaatttt 1080
388 ctggactgac tgaaatgaag taaatgtcac tctactgtca ttaaataaaa accattctt 1140
389 ttgacatttc cttattttcc aaatcctgtt caaaaactgc actgggacta tctctcccta 1200
390 gtaaatgact ctgggaggat gctaattgcc gagcctcaga ctgggtgtac atctgatag 1260
```

RAW SEQUENCE LISTING

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Input Set : A:\ES.txt

Output Set: N:\CRF3\01242002\I936133.raw

```
391 aagagtctgt acttgtgata tttctggcat aagaatagta atgccactt tcagaggata 1320
392 taccagagtg aaccacaacg gaacttaata gatagggcac caattttgtg caggaagctt 1380
393 catcagtccc tgaaggcttt aatttttttag caaggttctc actaagatca gtgaagtcaa 1440
394 catctacaga ccaactttct gacaatgaag agaaagaagt aattcttcta actggcaact 1500
395 ccaaaaccag tggccagtga tacattgtct aaaattttcc ttctcacatg atactttctga 1560
396 tcatatgaaa atctcaggag agtaagaata aggtattcag gttcctcgt gatttgcata 1620
397 gttttctcag cattttgcag agaggcacag ttttcacaat aatattggtt atcaccagta 1680
398 agaattctctg gagcccaaaa aataattttag taagtcagtt actgaagggtg tggtttcacc 1740
399 tcccgggtttc tgagggtacat ctttattaac aagaatcttg ttagattcgt tagggacaga 1800
400 agtggttttca gaacagtaaa actcattagg aggactgcct atgggttttt cattcacaag 1860
401 tgagtcacag atgaaggcag ctgttggttg attataaact actggtctct ctgaaggacc 1920
402 ggttacagac gcttgcatga gaccaccatc ttgtatactg ggtgatgatg ctggatcttg 1980
403 gacagacatg ttttccaaag aagaggaagc acaaaacgca agcgaaagat ctgtaaaggc 2040
```

E--> 404 t

406 <210> SEQ ID NO: 17

407 <211> LENGTH: 235

408 <212> TYPE: DNA

409 <213> ORGANISM: homo sapiens

411 <400> SEQUENCE: 17

```
413 cgtcccggtg aggtgtcagg ggttccaaac cagcctgggg aaacacagcg tagaccctc 60
414 acctctacaa ataaaaaatt aaaaaattag ccagggtgtg cagcgaacaa ctgtagtctc 120
415 agatactcag gagactgagc tggaaaggat cacttgagcc caagaagttc aagggttacg 180
```

E--> 416 tggggccacga tcatgtcatt acactccagc ttgggtgaca aaatgagact gtcta *same*

418 <210> SEQ ID NO: 18

419 <211> LENGTH: 2732

420 <212> TYPE: DNA

421 <213> ORGANISM: homo sapiens

423 <400> SEQUENCE: 18

```
425 gtgtggagtt tcagctgcta ttgactataa gagctatgga acagaaaaag cttgctggct 60
426 tcatgtttat aactacttta tatggagctt cattggacct gttaccttca ttattctgct 120
427 aaatattatc ttcttggtga tcacattgtg caaaatggtg aagcattcaa acactttgaa 180
428 accagattct agcagggttg aaaacattaa gtcttggtg cttggcgctt tcgctcttct 240
429 gtgtcttctt ggcctcacct ggtccttttg gttgcttttt attaatgagg agactattgt 300
430 gatggcatat ctcttcacta tatttaatgc tttccaggga gtgttcattt tcacttttca 360
431 ctgtgctctc caaaagaaag tacgaaaaga atatggcaag tgccttcagac actcatactg 420
432 ctgtggaggg ctcccaactg agagtcacca cagttcagtg aaggcatcaa ccaccagaac 480
433 cagtgtctgc tattctctct gcacacagag tcgtataaga agaattgtga atgatactgt 540
434 gagaaaacaa tcagaatctt cttttatctc aggtgacatc aatagcactt caacacttaa 600
435 tcaaggtggc ataaatctta atatattatt acaggactga catcacatgg tctgagagcc 660
436 catcttcaag atttatatca tttagaggac attcactgaa caatgccagg gatacaagt 720
437 ccattggatac tctaccgcta aatggttaatt ttaacaacag ctactcgctg cacaagggtg 780
438 actataatga cagcgtgcaa gttgtggact gtggactaag tctgaatgat actgcttttg 840
439 agaaaatgat catttcagaa ttagtgcaca acaacttacg gggcagcagc aagactcaca 900
440 acctcgagct cacgctacca gtcaaacctg tgattggagg tagcagcagt gaagatgatg 960
441 ctattgtggc agatgcttca tctttaatgc acagcgacaa cccagggtg gagctccatc 1020
442 acaagaact cgaggcacca cttattctc agcggactca ctcccttctg taccaacccc 1080
443 agaagaaagt gaagtccgag ggaactgaca gctatgtctc ccaactgaca gcagaggctg 1140
444 aagatcacct acagtcccc aacagagact ctctttatac aagcatgcc aatcttagag 1200
445 actctcccta tccggagagc agccctgaca tggaagaaga cctctctccc tccaggagga 1260
```


RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/936,133

DATE: 01/24/2002

TIME: 12:52:51

Input Set : A:\ES.txt

Output Set: N:\CRF3\01242002\I936133.raw

```
446 gtgagaatga ggacatttac tataaaagca tgccaaatct tggagctggc catcagcttc 1320
447 agatgtgcta ccagatcagc aggggcaata gtgatggtta tataatcccc attaacaaaag 1380
448 aaggggtgtat tccagaagga gatgttagag aaggacaaat gcagctgggtt acaagtcttt 1440
449 aatcatacag ctaaggaatt ccaagggccca catgcgagta ttaataaata aagacacccat 1500
450 tggcctgacg cagctccctc aaactctgct tgaagagatg actcttgacc tgtggttctc 1560
451 tgggtgtaaaa aagatgactg aaccttgacg ttctgtgaat tttataaaa catacaaaaa 1620
452 ctttgatatat acacagagta tactaaagtg aattatttgt tacaagaaa agagatgcc 1680
453 gccagggtatt ttaagattct gctgctgttt agagaaattg tgaaacaagc aaaacaaaac 1740
454 tttccagcca ttttactgca gcagctctgtg aactaaattt gtaaataatg ctgcaccatt 1800
455 tttgtaggcc tgcattgtat tatatacaag acgtaggctt taaaatcctg tgggacaaat 1860
456 ttactgtacc ttactattcc tgacaagact tggaaaagca ggagagatat tctgcatcag 1920
457 tttgcagttc actgcaaact ttttacatta aggcaaagat tgaaaacatg ctttaaccact 1980
458 agcaatcaag ccacaggcct tatttcatat gtttcctcaa ctgtacaatg aactattctc 2040
459 atgaaaaatg gctaaagaaa ttattttttg ttctattgct agggtaaaat aaatacattt 2100
460 gtgtccaact gaaatataat tgtcattaaa ataattttta agagtgaaga aaatattgtg 2160
461 aaaagctctt ggttgcacat gttatgaaat gttttttctt acactttgtc atggtaagtt 2220
462 ctactcattt tcaactcttt tccactgtat acagtgttct gctttgacaa agttagtctt 2280
463 tattacttac atttaaatat cttattgcca aaagaacgtg ttttatgggg agaaacaaac 2340
464 tctttgaagc cagttatgtc atgccttgca caaagtgat gaaatctaga aaagattgtg 2400
465 tgtcacccct gtttattctt gaacagaggg caaagagggc actgggcact tctcaciaac 2460
466 tttctagtga acaaaagggtg cctattcttt tttaaaaaaa taaaataaaa cataaatatt 2520
467 actcttccat attccttctg cctatatatta gtaatttaatt tattttatga taaagtctta 2580
468 atgaaatgta aattgtttca gcaaaattct gctttttttt catccctttg tgtaaacctg 2640
469 ttaataatga gccatcact aatatccagt gtaaagttta acacggtttg acagtaaata 2700
E--> 470 aatgtgaatt ttttcaagtt aaaaaaaaaa aa none
472 <210> SEQ ID NO: 19
473 <211> LENGTH: 276
474 <212> TYPE: DNA
475 <213> ORGANISM: homo sapiens
477 <400> SEQUENCE: 19
479 ctccctaaat gatttttaaaa taaattggat aaacatatga tataaagtgg gtactttaga 60
480 aaccgccttt gcatattttt tatgtacaaa tctttgtata caattccgat gttccttata 120
481 tattccctat atagcaaacc aaaaccagga cctcccaact gcagcctca agtccctgtg 180
482 gagcactctg gcaactggat ggccctactt gctttctgac aaaatagctg gaaaggagga 240
E--> 483 gggaccaatt aaatacctcg gccgcgacca cgctgg none
485 <210> SEQ ID NO: 20
486 <211> LENGTH: 2361
487 <212> TYPE: DNA
488 <213> ORGANISM: homo sapiens p.10
490 <400> SEQUENCE: 20
492 attgtaccag ccttgatgaa cgtgggacct gcttcgcttt tgagggccat aagctcattg 60
493 cccactggtt tagaggctac cttatcattg tctcccgta ccggaagggt tctcccaagt 120
494 cagagtttac cagcagggat tcacagagct ccgacaagca gattctaaac atctatgacc 180
495 tgtgaacaa gtccatagcc tatagaccg tctttgagga tgtagtggat gtgcttgctg 240
496 agtggggctc cctgtacgtg ctgacgcggg atgggcgggt ccacgcactg caggagaagg 300
497 acacacagac caaactggag atgctgttta agaagaacct atttgagatg gcgattaacc 360
498 ttgccaaagag ccagcatctg gacagtgtg ggcctggcca gattttcatg cagtatggag 420
499 accatctcta cagcaagggc aaccacgatg gggctgtcca gcaatatatc cgaaccattg 480
500 gaaagttgga gccatcctac gtgatccgca agtttctgga tgcccagcgc attcacaacc 540
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/936,133

DATE: 01/24/2002
TIME: 12:52:51

Input Set : A:\ES.txt

Output Set: N:\CRF3\01242002\I936133.raw

```
501 tgactgccta cctgcagacc ctgcaccgac aatccctggc caatgccgac cataccaccc 600
502 tgctcctcaa ctgctatacc aagctcaagg acagctcgaa gctggaggag ttcatcaaga 660
503 aaaagagtga gagtgaagtc cactttgatg tggagacagc catcaaggtc ctccggcagg 720
504 ctggctacta ctcccatgcc ctgtatctgg cggagaacca tgcacatcat gagtggtagc 780
505 tgaagatcca gctagaagac attaagaatt atcaggaagc ccttcgatac atcggcaagc 840
506 tgccttttga gcaggcagag agcaacatga agcgtacagg caagatcctc atgcaccaca 900
507 taccagagca gacaactcag ttgctgaagg gactttgtac tgattatcgg ccagcctcg 960
508 aaggcccgag cgataggagg gccccaggct gcagggccaa ctctgaggag ttcatcccca 1020
509 tctttgccaa taaccgcga gagctgaaag ccttcctaga gcacatgagt gaagtgcagc 1080
510 cagactcacc ccaggggatc tacgacacac tcttgagct gcgactgcag aactgggccc 1140
511 acgagaagga tccacaggtc aaagagaagc ttcacgcaga ggccatttcc ctgctgaaga 1200
512 gtggtcgctt ctgcgacgtc tttgacaagg ccttggtcct gtgccagatg cagcacttcc 1260
513 aggatggtgt cctttacctt tatgagcagg ggaagctgtt ccagcagatc atgcactacc 1320
514 acatgcagca cgagcagtag cggcaggcca tcagcgtgtg tgagcgccat ggggagcagg 1380
515 accctcctt gtgggagcag gcoctcagct acttcgctcg caaggaggag gactgcaagg 1440
516 agtatgtggc agctgtcctc aagcatatcg agaacaagaa cctcatgcca cctcttctag 1500
517 tgggtcgagc cctggccccc aactccacag ccacactctc cgtcatcagg gactacctgg 1560
518 tccaaaaact acagaaacag agccagcaga ttgcacagga tgagctgcgg gtgcggcggt 1620
519 accgagagga gaccaccgt atccgcagg agatccaaga gctcaaggcc agtccctaaga 1680
520 ttttccaaaa gaccaagtgc agcatctgta acagtgcctt ggagttgccc tcagtccact 1740
521 tctgtgtgg ccactccttc caccaacact gctttgagag ttactcggaa agtgatgctg 1800
522 actgccccac ctgcctccct gaaaaccgga aggtcatgga tatgatccgg gccaggaac 1860
523 agaaacgaga tctccatgat caattccagc atcagctcaa gtgctccaat gacagctttt 1920
524 ctgtgattgc tgactacttt ggcagaggtg ttttcaacaa attgactctg ctgaccgacc 1980
525 ctcccacagc cagactgacc tccagcctgg aggtcgggt gcaacgcgac ctactcatgc 2040
526 actccaggag gggcacttaa gcagcctgga ggaagatgtg ggcaacagtg gaggaccaag 2100
527 agaacagaca caatgggacc tgggcggggc ttacacagaa ggctggctga catgcccagg 2160
528 gctccactct catctaattg cacagccctc acaagactaa agcggaaact tttcttttcc 2220
529 ctggccttcc ttaattttaa gtcaagcttg gcaatccctt cctctttaac taggcagggtg 2280
530 ttagaatcat ttccagatta atggggggga aggggaacct caggcaaacc tctgaagtt 2340
```

E--> 531 ttggaaaaaa aagctggttt c

1770 <210> SEQ ID NO: 60

1771 <211> LENGTH: 747

1772 <212> TYPE: DNA

1773 <213> ORGANISM: homo sapiens

1775 <400> SEQUENCE: 60

```
1777 tttttcaaat cacatatggc ttctttgacc ccatcaaata actttattca cacaaacgtc 60
1778 ccttaattta caaagcctca gtcattcata cacattaggg gatccacagt gttcaaggaa 120
1779 cttaaataata atgtatcata ccaacccaag taaaccaagt acaaaaaata ttcatataaa 180
1780 gttgttcaca cgtaggtcct agattaccag cttctgtgca aaaaaaggaa atgaagaaaa 240
1781 atagatttat taactagtat tggaaactaa ctttgtgcct ggcttaaaac ctccctcagc 300
1782 ctgctctgtc ccacacaaat gtttaagaag tcaactgcaat gtactccccg gctctgatga 360
1783 aaagaagccc ctggcacaaa agattccagt gcccctgaag aggtccctt cctcctgtgg 420
1784 gctctcctag aaaaccagcg ggacggcctc cctgctgata ccgtctataa ccttaggggg 480
1785 cctcggggca ggcaacggca gtggactcat ctcggtgatg gctgtagatg ctaacactgg 540
1786 ccaattcaat gccacaccta ctggttacc tttgagggca tttctccaga cagaagcccc 600
1787 ttgaagccta gtagggcag gatcagagat acaccggtgt ttgtctcgaa gggctccaca 660
1788 gccagtagc acatgcttgc agaagtagta tctctggact tctgctcca gtgcaccggc 720
```

E--> 1789 cgcgaaattta gtagtaatag cgggccgc

The types of errors shown exist throughout
the Sequence Listing. Please check all
sequences for similar errors.

see p 11

RAW SEQUENCE LISTING

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Input Set : A:\ES.txt

Output Set: N:\CRF3\01242002\I936133.raw

E--> 1791 sequence listing/ 20.12.01

E--> 1793 -2-

delete

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/936,133

DATE: 01/24/2002

TIME: 12:52:52

Input Set : A:\ES.txt

Output Set: N:\CRF3\01242002\I936133.raw

L:3 M:259 W: Allowed number of lines exceeded, (1) GENERAL INFORMATION:

L:13 M:270 C: Current Application Number differs, Replaced Current Application Number

L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:55 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1835 SEQ:1

L:74 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:581 SEQ:2

L:91 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:516 SEQ:3

L:118 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1099 SEQ:4

L:143 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1015 SEQ:5

L:190 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:2313 SEQ:6

L:205 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:389 SEQ:7

L:216 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:157 SEQ:8

L:234 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:561 SEQ:9

L:268 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1508 SEQ:10

L:283 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:389 SEQ:11

L:308 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:981 SEQ:12

L:323 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:401 SEQ:13

L:348 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1002 SEQ:14

L:361 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:280 SEQ:15

L:404 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:2041 SEQ:16

L:416 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:235 SEQ:17

L:470 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:2732 SEQ:18

L:483 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:276 SEQ:19

L:531 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:2361 SEQ:20

L:542 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:179 SEQ:21

L:566 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:905 SEQ:22

L:610 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:2134 SEQ:23

L:646 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1626 SEQ:24

L:678 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1420 SEQ:25

L:698 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:689 SEQ:26

L:714 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:471 SEQ:27

L:738 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:929 SEQ:28

L:776 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1775 SEQ:29

L:811 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1546 SEQ:30

L:832 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:750 SEQ:31

L:925 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:2968 SEQ:33

L:1037 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:6011 SEQ:34

L:1198 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:716 SEQ:36

L:1213 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:395 SEQ:37

L:1224 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:134 SEQ:38

L:1243 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:644 SEQ:39

L:1262 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:657 SEQ:40

L:1293 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1328 SEQ:41

L:1318 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:987 SEQ:42

L:1342 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:956 SEQ:43

L:1359 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:536 SEQ:44

L:1395 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1630 SEQ:45

L:1406 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:169 SEQ:46

L:1427 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:769 SEQ:47

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/936,133

DATE: 01/24/2002

TIME: 12:52:52

Input Set : A:\ES.txt

Output Set: N:\CRF3\01242002\I936133.raw

L:1478 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:2529 SEQ:48
L:1512 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1552 SEQ:49
L:1536 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:921 SEQ:50
L:1550 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:338 SEQ:51
L:1578 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1191 SEQ:52
L:1791 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:60
L:1791 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:14
L:1793 M:252 E: No. of Seq. differs, <211>LENGTH:Input:747 Found:765 SEQ:60